

IN THE CLAIMS

Claim 1 (Currently amended): An isolated polynucleotide comprising a polynucleotide selected from:

a) — a polynucleotide comprising at least 20 contiguous bases selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

b) — a polynucleotide comprising at least 70% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

c) — a polynucleotide having comprising at least 80% 95% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22; and

d) — a polynucleotide to a polynucleotide of (a) through (c).

Claim 2 (Currently amended): A recombinant expression cassette comprising a polynucleotide selected from the group consisting of:

a) — a polynucleotide comprising at least 20 contiguous bases selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

b) — a polynucleotide comprising at least 70% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

c) — a polynucleotide having comprising at least 80% 95% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22; and

d) — a polynucleotide complementary a polynucleotide of (a) through (c).

Claim 3 (Currently amended): A vector comprising a recombinant expression cassette comprising a polynucleotide selected from the group consisting of:

a) — a polynucleotide comprising at least 20 contiguous bases selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

b) — a polynucleotide comprising at least 70% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

- e) — a polynucleotide having comprising at least 95% 80% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22; and
- d) — a polynucleotide complementary to a polynucleotide of (a) through (c).

Claim 4 (Currently amended): A host cell comprising a recombinant expression cassette comprising a polynucleotide selected from the group consisting of:

- a) — a polynucleotide comprising at least 20 contiguous bases selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;
- b) — a polynucleotide comprising at least 70% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;
- c) — a polynucleotide having comprising at least 95% 80% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22; and
- d) — a polynucleotide complementary to a polynucleotide of (a) through (c).

Claim 5 (Currently amended): The host cell of Claim claim 4 wherein the cell is a plant cell.

Claim 6 (Currently amended): The host cell of Claim claim 5 wherein the cell is selected from the group consisting of: maize, sorghum, wheat, tomato, soybean, alfalfa, sunflower, canola, cotton, and rice.

Claims 7-9 (Cancelled)

Claim 10 (Currently amended): A method of making an APAO enzyme comprising the steps of:

- a) expressing a polynucleotide operably linked to a promoter in a recombinantly engineered cell, wherein the polynucleotide has is selected from the group consisting of:
 - i) — a polynucleotide comprising at least 20 contiguous bases selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;

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- ii. — a polynucleotide comprising at least 70% sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;
- iii. — a polynucleotide comprising at least 95% ~~80%~~ sequence identity to a polynucleotide selected from SEQ ID NO: 5, SEQ ID NO: 10, and SEQ ID NO: 22;
- iv. — polynucleotide complementary to a polynucleotide of i. through iii. operably linked to a promoter;

and

- b) purifying the enzyme.

Claims 11-22 (Cancelled)
